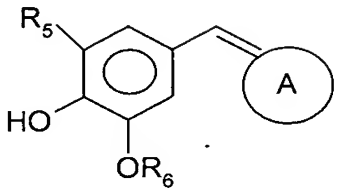
WHAT IS CLAIMED IS

1. A compound of formula I



I

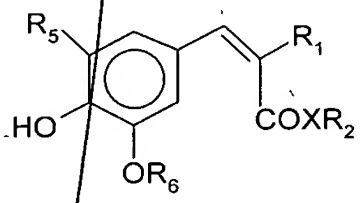
wherein

A is a moiety which is chromophoric within the UV radiation range of wavelengths to provide UV absorbing activity to the compound of formula I, wherein moiety A comprises one divalent group or two monovalent groups, with at least one group having carbonyl (C=O) functionality,

R_6 is independently linear or branched C_1-C_8 alkyl, and

R_5 is hydrogen or linear or branched C_1-C_8 alkyl.

2. A compound of formula II



II

wherein

R_1 is selected from the group consisting of -$C(O)CH_3$, -CO_2R_3, -$C(O)NH_2$, -$C(O)N(R_4)_2$, and -CN;

X is O or NH;

R_2 is linear or branched C_1 to C_{30} alkyl;

R_3 is linear or branched C_1 to C_{20} alkyl; and

each R_4 is independently hydrogen, or linear or branched C_1 to C_8 alkyl;
R_5 is linear or branched C_1-C_8 alkyl or hydrogen,
and R_6 is C_1 to C_8 alkyl.

3. A compound of claim 2 wherein R_6 is C_1-C_8 alkyl, X is oxygen and R_2 is linear or branched C_1 to C_4 alkyl.

4. A compound of claim 3 wherein R_1 is CO_2R_3 and, R_3 is linear or branched C_1 to C_8 alkyl.

5. A compound of claim 3 wherein R_1 is $C(O)CH_3$.

6. A compound of claim 3 wherein R_1 is $-C(O)N(R_4)_2$, and at least one R_4 is hydrogen and the other is hydrogen or linear or branched C_1 to C_4 alkyl.

7. A compound of claim 3 wherein R_1 is $-C(O)N(R_4)_2$, and each R_4 is independently linear or branched ~~C_1~~ to C_4 alkyl.

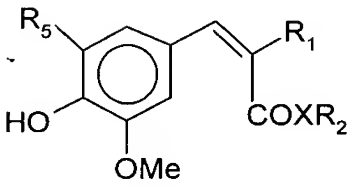
8. A compound of claim 2 wherein R_6 is C_1-C_4 alkyl, R_1 is $-CO_2R_3$, and at least one of R_2 and R_3 is linear or branched C_8 to C_{20} alkyl.

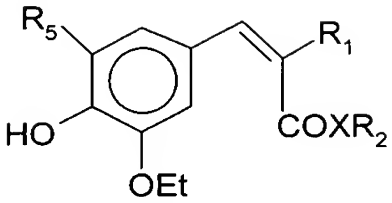
9. A compound of claim 8 wherein R_2 and R_3 are each linear or branched C_8-C_{12} alkyl.

10. A compound of claim 8 wherein at leâst one of R_2 and R_3 is linear or branched C_{12} to C_{20} alkyl.

11. A compound as in claim 1 wherein R_6 is methyl or ethyl.

12. A compound of one of the formulae





wherein

R_1 is selected from the group consisting $-C(O)CH_3$, $-CO_2$ (C_1-C_8 alkyl), $-C(O)NH_2$, $-C(O)N(C_1$ -C_4 alkyl$)_2$, and -CN;

X is O or NH; and

R_2 is C_1-C_{12} alkyl, and

R_5 is C_1-C_8 linear or branched alkyl.

13. A compound of claim 12 wherein X is oxygen and R_2 is linear or branched C_1 to C_4 alkyl.

14. A compound of claim 12 wherein R_1 is $-CO_2C_8H_{18}$.

15. A compound of claim 1 selected from the group consisting of

ethyl- alpha- cyano-3-methoxy- 4-hydroxy cinnamate,

ethyl- alpha- acetyl-3-methoxy- 4-hydroxy cinnamate,

iso-propyl-alpha-acetyl-3-methoxy-4-hydroxy cinnamate,

iso-amyl-alpha-acetyl-3-methoxy-4-hydroxy cinnamate,

2-ethylhexyl-alpha-acetyl-3-methoxy-4-hydroxy cinnamate,

diethyl-3-methoxy- 4-hydroxy benzylidene malonate,

di-(2-ethylhexyl)-3-methoxy- 4-hydroxy benzylidene malonate,

diisoamyl-3-methoxy-4-hydroxy benzylidene malonate,

dipalmitoyl-3-methoxy-4-hydroxy benzylidene malonate,

di-dodecyl-3-methoxy-4-hydroxy benzylidene malonate,

di-isopropyl-3-methoxy-4-hydroxy benzylidene malonate,
di-(2-ethyhexyl)-3-methoxy-4-hydroxy-5-isopropyl-benzylidene malonate,
di-isoamyl-3-methoxy-4-hydroxy-5-tert.butyl-benzylidene malonate,
iso-amyl-alpha-acetyl-3-methoxy-4-hydroxy-5-isopropyl cinnamate, and
iso-amyl-alpha-acetyl-3-methoxy-4-hydroxy-5-tert.butyl cinnamate.

16. A sunscreen formulation comprising a compound of claim 1 in an amount effective to absorb illumination in a range above 320 nm wavelength.

17. A sunscreen formulation comprising a compound of claim 1 in an amount effective to absorb illumination in a range of 290 to 400 nm wavelength.

18. A sunscreen formulation as in claim 16, which comprises from 0.1 to 40 wt.% of a compound of formula I.

19. A sunscreen formulation as in claim 16 comprising an additional organic sunscreen agent for filtering UV-B , UV-A rays or both.

20. A sunscreen formulation as in claim 18 wherein the compound of Formula I stabilizes the additional sunscreen agent against degradation from exposure to light.

21. A sunscreen formulation as in claim 18, which additionally comprises an inorganic metal oxide sunscreen agent.

22. A personal care formulation that comprises a compound of formula 1 of claim 1 in an amount effective to absorb illumination in a range above 320 nm wavelength, a cosmetically acceptable carrier and at least one cosmetic adjuvant selected from the group consisting of preservatives, antifoams, perfumes, oils, waxes, propellants, dyes, pigments, waterproofing agents, emulsifiers, surfactants, thickeners, humectants, exfoliants and emollients.

23. A personal care formulation as in claim 22 which is in a form selected from the group consisting of creams, ointment, suspensions, powders, oily lotions, oleo-alcoholic lotions, fatty gels, oleo-alcoholic gels, solid sticks, foams, emulsions, liquid dispersions, sprays and aerosols.

24. A sunscreen formulation as in claim 19, which is free of photostabilizers other than compounds of formula I, which is present in an amount within the range of 0.1% to 40 wt% of said sunscreen formulation.

25. A method of protecting a substrate from UV radiation which comprises applying a sunscreen formulation of claim 16 to said substrate.

26. A method as of protecting a substrate of skin or hair from UV radiation which comprises applying a personal care formulation of claim 22 to a substrate of skin or hair.

27. A method of improving the photostability of a sunscreen formulation said method comprising adding a compound of formula I of claim 1 to said sunscreen formulation in an amount sufficient to improve the photostability of said sunscreen agent.

28. A method as in claim 27 wherein the amount of compound of formula I added to the sunscreen formulation falls within the range of 0.1% to 40wt% of said sunscreen formulation.

29. A method as in claim 26 wherein the personal care formulation additionally comprises an antioxidant selected from the group consisting of tocopherols, tocopherylacetate, Ascorbic acid, Emblica antioxidants, Proanthocyanidins, Rosemary antioxidants, green tea polyphenols, gallic acid, ellagic acid, butylhydroxy toluene (BHT) and butylhydroxy anisole (BHA).

30. A personal care formulation comprising at least one compound of claim 1 and an antioxidant other than a compound of formula I.

31. A personal care formulation as in claim 30 wherein the antioxidant is selected from the group consisting of Tocopherols, tocopherylacetate, Ascorbic acid, Emblica antioxidants, Proanthocyanidins, Rosemary antioxidants, green tea polyphenols, gallic acid, ellagic acid, butylhydroxy toluene (BHT) and butylhydroxy anisole (BHA).

32. A personal care formulation which comprises a compound of formula I in an amount effective to protect formulation ingredients from oxidation.

33. A personal care formulation as in claim 32, which is in the form of lipsticks, foundation, make-up, loose or press powder, eye blush, eye shadows or nail lacquer.

K:\EMI\29\APPLICATION.DOC